

23646

Attorney Docket No. 509/35215C2
PATENT

U.S. PATENT AND TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Kevin B. Root et al.
Continuation of Serial No.: 10/032,477 Art Unit: 3613
Filed: Herewith Examiner: Siconolfi, R.
For: INTEGRATED TRAIN ELECTRICAL AND PNEUMATIC
BRAKES

RESPONSE TO FINAL OFFICE ACTION IN THE PARENT APPLICATION

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Final Office Action in the parent application (US Serial No. 10/032,477) dated April 29, 2003, Claims 3 and 4 have been rewritten as Claims 1 and 2. In the parent application, Claims 3 and 4 were rejected as unpatentable over Joyce, Jr. et al. (US 5,721,683) in view of Troiani et al. (US 5,393,129). This rejection is respectfully traversed.

The enclosed specification has been modified to include the appropriate claim of priority, as well as adding the inventor, John J. Allen. The enclosed Declaration and Power of Attorney is the appropriate Declaration for the added inventor, which was done in the parent application.

REMARKS

Claims 3 and 4 stand rejected under 35 U.S.C. § 103 as being unpatentable over Joyce, Jr. et al. in view of Troiani et al.

The present invention, as exemplified by Claim 2, is directed to an apparatus for controlling an electro-pneumatic braking system on a railroad train having electronic brake control equipment that includes an operator display facility and brake handles located in a cab of a locomotive of the train. The apparatus includes an electro-pneumatic interface module connecting the electro-pneumatic brakes on the cars with the locomotive control computer. The brake control associated with a pneumatic brake operating unit is connected with the electro-

pneumatic interface module and the locomotive control computer. The pneumatic brake operating unit is connected with a brake pipe of the locomotive and the cars. The electro-pneumatic interface module and electronic brake control equipment operate the brakes of the locomotive and the cars using the common brake handles and operator display. Claim 1 is the equivalent method claim.

In Joyce, Jr. et al., the locomotive control computer 2 is connected with a brake control 3 associated with a pneumatic braking operating unit. The locomotive interface unit receives signals from the brake control computer 3 and provides it on the locomotive wires to the other locomotives in the consist or those connected to the lead locomotive. The locomotive wire is known in the art as the 27 pin MU wire, as shown in Figures 9 and 10 of Root et al. US 5,172,316. The braking signals that are sent are dynamic brake signals for braking resulting from the electric propulsion motors, not electro-pneumatic braking. The pneumatic braking in the locomotive consists is by the Independent Application and Release pipe IAR as discussed in Joyce, Jr. et al. As noted in the rejection, Joyce, Jr. et al. does not disclose having electro-pneumatic brakes on the cars of the train. Thus, nothing in Joyce, Jr. et al. can be considered an electro-pneumatic interface module which interfaces an electrical brake control system on the cars with the locomotive control computer 2 and is also connected to the brake control 3 of the pneumatic brakes.

Realizing this, the Office Action cites Troiani et al. '129. Troiani et al. does show an electro-pneumatic freight brake control system. The microprocessor on the car controls valves 22 and 24 in response to electronic signals received on trainline 44. There is no discussion in Troiani et al. regarding how the signals on line 44 are produced at the locomotive. Troiani et al. merely shows that a pneumatic and an electro-pneumatic system can be provided at the cars. Prior to the present invention, the electro-pneumatic brake system was separate from the pneumatic brake system. This state-of-the-art and related problem is also recognized by US Patent 5,984,427 to Kettle, Jr. (of record). Each had their own control handles and displays. There is no discussion of integrating the controls at the locomotive. There is no teaching of record to make the integration and, thus, the claimed invention is novel and non-obvious.

In summary, the rejection mixes and matches pieces of prior art, and still the combination does not produce the specific accommodation of Claims 1 and 2.

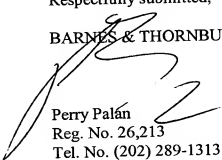
An earnest attempt has been made to respond fully to the Examiner's rejections and to place the instant application in condition for allowance. Upon review of Claims 1 and 2, it will

become evident that they are allowable over the art for the reasons stated above and, thus, passage of this case to issue is respectfully solicited.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees, be charged, or any overpayment in fees be credited, to the Account of Barnes & Thornburg, Deposit Account No. 02-1010 (509/35215C2).

Respectfully submitted,

BARNES & THORNBURG



Perry Palán
Reg. No. 26,213
Tel. No. (202) 289-1313

74258v1